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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,329	04/20/2001	Keizo Ohnishi	0965-0350P	1030

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EXAMINER	
MICHALSKI, JUSTIN I	
ART UNIT	**PAPER NUMBER**
2615	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/838,329	OHNISHI ET AL.	
	Examiner	Art Unit	
	Justin Michalski	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-9,11,12 and 14-23* is/are pending in the application.

4a) Of the above claim(s) *14-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-9,11,12,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims 14-21 drawn to an invention nonelected with traverse. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6-9, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (Hereinafter "Matsumoto") (JP405257484A) in view of Fujiwara JP 10037342 A).

Regarding Claim 1, Matsumoto discloses an active acoustic control cell, disposed on an upper end surface of a noise insulation wall, for controlling a coming noise such that a diffracted sound pressure component of the coming noise at the upper end surface is actively reduced (Fig. 2). Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on both the sound source side and the opposite side of the active acoustic control cell wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall. Fujiwara discloses sound tubes which are nearly ¼ of a wavelength

(see solution), the sound tubes on both the sound source side and the opposite side of the wall wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall (Fig. 6) in order to provide a wall capable of exhibiting high sound insulating performance in wide frequency ranges (see solution). Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to include sound tube on both sides of the wall with a bottom portion entering a depression formed in the upper end surface of the wall in order to high sound insulating performance as taught by Fujiwara.

Regarding Claims 2 and 3, Matsumoto discloses an active acoustic control cell, disposed on an upper end surface of a noise insulation wall, for controlling a coming noise such that a diffracted sound pressure component of the coming noise at the upper end surface is actively reduced (Fig. 2). Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on both the sound source side and the opposite side of the active acoustic control cell wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall. Fujiwara discloses sound tubes which are nearly ¼ of a wavelength (see solution), the sound tubes on both the sound source side and the opposite side of the wall wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall (Fig. 6) in order to provide a wall capable of exhibiting high sound insulating performance in wide frequency ranges (see solution). Therefore it would have been obvious to one of

ordinary skill in the art a the time the invention was made to include sound tube on both sides of the wall with a bottom portion entering a depression formed in the upper end surface of the wall in order to high sound insulating performance as taught by Fujiwara.

Regarding Claim 4, Matsumoto discloses an active acoustic control cell, disposed on an upper end surface of a noise insulation wall, for controlling a coming noise such that a diffracted sound pressure component of the coming noise at the upper end surface is actively reduced (Fig. 2). Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on both the sound source side and the opposite side of the active acoustic control cell wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall. Fujiwara discloses sound tubes which are nearly ¼ of a wavelength (see solution), the sound tubes on both the sound source side and the opposite side of the wall wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall (Fig. 6) in order to provide a wall capable of exhibiting high sound insulating performance in wide frequency ranges (see solution). Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to include sound tube on both sides of the wall with a bottom portion entering a depression formed in the upper end surface of the wall in order to high sound insulating performance as taught by Fujiwara.

Regarding Claim 6, Matsumoto discloses an active acoustic control cell, disposed on an upper end surface of a noise insulation wall, for controlling a coming noise such that a diffracted sound pressure component of the coming noise at the upper

end surface is actively reduced (Fig. 2). Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on both the sound source side and the opposite side of the active acoustic control cell wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall. Fujiwara discloses sound tubes which are nearly ¼ of a wavelength (see solution), the sound tubes on both the sound source side and the opposite side of the wall wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall (Fig. 6) in order to provide a wall capable of exhibiting high sound insulating performance in wide frequency ranges (see solution). Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to include sound tube on both sides of the wall with a bottom portion entering a depression formed in the upper end surface of the wall in order to high sound insulating performance as taught by Fujiwara.

Regarding Claims 7 and 8, Matsumoto discloses an active acoustic control cell, disposed on an upper end surface of a noise insulation wall, for controlling a coming noise such that a diffracted sound pressure component of the coming noise at the upper end surface is actively reduced (Fig. 2). Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on a side of the active acoustic control cell facing a sound source to be subjected to sound reduction and a sound absorption material or an acoustic resistor. Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on both the sound source side and the opposite side of the active acoustic control cell wherein at least on sound tube

has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall. Fujiwara discloses sound tubes which are nearly ¼ of a wavelength (see solution), the sound tubes on both the sound source side and the opposite side of the wall wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall (Fig. 6) in order to provide a wall capable of exhibiting high sound insulating performance in wide frequency ranges (see solution). Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to include sound tube on both sides of the wall with a bottom portion entering a depression formed in the upper end surface of the wall in order to high sound insulating performance as taught by Fujiwara.

Regarding Claim 9, Matsumoto discloses an active acoustic control cell, disposed on an upper end surface of a noise insulation wall, for controlling a coming noise such that a diffracted sound pressure component of the coming noise at the upper end surface is actively reduced (Fig. 2). Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on both the sound source side and the opposite side of the active acoustic control cell wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall. Fujiwara discloses sound tubes which are nearly ¼ of a wavelength (see solution), the sound tubes on both the sound source side and the opposite side of the wall wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall (Fig. 6) in order to provide a wall capable of exhibiting high sound insulating performance in wide

frequency ranges (see solution). Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to include sound tube on both sides of the wall with a bottom portion entering a depression formed in the upper end surface of the wall in order to high sound insulating performance as taught by Fujiwara.

Regarding Claim 23, Matsumoto discloses an active control cell, disposed on an upper end of a noise insulation wall, for controlling a coming noise such that a diffracted sound pressure component of the coming noise at the upper end is actively reduced (Fig. 2). Matsumoto does not disclose one sound tube which is nearly ¼ of a wavelength, the sound tube on both the sound source side and the opposite side of the active acoustic control cell wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall. Fujiwara discloses sound tubes which are nearly ¼ of a wavelength (see solution), the sound tubes on both the sound source side and the opposite side of the wall wherein at least on sound tube has a bottom portion thereof entering a depression formed in the upper end surface of the insulation wall (Fig. 6) in order to provide a wall capable of exhibiting high sound insulating performance in wide frequency ranges (see solution). Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to include sound tube on both sides of the wall with a bottom portion entering a depression formed in the upper end surface of the wall in order to high sound insulating performance as taught by Fujiwara.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto/Fujiwara as applied to claims 3 and 8 above, and further in view of Shima et al. ("Shima") (US Patent 5,678,364).

Matsumoto/Fujiwara disclose an apparatus as stated according to claims 3 and 8 including the plate materials being made steel, aluminum, or synthetic resin, but does not disclose the resistor material being porous. Shima also discloses a soundproof wall with a sound absorbing member being made of a porous plate (Col. 4, lines 1-9) in order to absorb unwanted sound. Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to use a porous plate as a sound absorption material to cancel unwanted noise as taught by Shima.

5. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto/Fujiwara as applied to claims 1-10 above, and further in view of Masaharu (JP 09119114).

Matsumoto/Fujiwara disclose a wall as stated apropos of claims 1-10 above but do not disclose a plurality of the active sound reduction apparatuses disposed in a row along a longitudinal direction of the wall. Masaharu discloses an active noise cancellation system with a wall comprising a plurality of apparatuses in a longitudinal direction (Fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of apparatuses in a longitudinal direction in order to cancel sound for the entire length of the wall.

Conclusion

6. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2615.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (571)272-7524. The examiner can normally be reached on M-F 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM

March 27, 2006

VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600